

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.

6,808,125 B2

Appl. No.

09/844,273

Confirmation No. 1054

Applicant

Siegfried RUTHARDT et al.

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October 26, 2004

Filed

April 30, 2001

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3752

Examiner

D. Gorman

Docket No.

R.37659

Customer No.

02119

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Date: March 4, 2005

<u>INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(i),</u> AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file.

This citation of prior art is made under 37 CFR 1.97(i), since it is being filed after the patent has come to issue.

This prior art citation is being submitted under 37 CFR 1.97(i) because the prior art did not come to the attention of the undersigned until a time such that 37 CFR 1.97(e) precluded consideration under 37 CFR 1.97(d).

The undersigned asserts that the prior art cited on the attached form 1449 has been compared to the allowed claims, and that the prior art cited on this form 1449 is not materially closer to the claimed subject matter than is the prior art which the examiner has already considered.

The relevance of the prior art cited on the attached form 1449 is as follows:

US 5,577,667

This patent teaches a fuel injection valve for intermittent fuel injection into the combustion space of a combustion engine. The valve comprises an injection valve indirectly actuated electromagnetically by a hydraulic amplifier. The opening motion of the injection valve element remains limited at low and medium injection pressures. The opening motion of the injection valve element is substantially more rapid and the opening path of the injection valve element is substantially larger at high injection pressure than it is at a low to medium injection pressure. It is possible to operate the engine over the complete load and rotational speed range under optimum injection conditions.

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DE 44 27 378 A1

According to the teachings of this patent, the rod (11) of a piston (7, Fig. 1), which effects needle lift when a solenoid valve (9) relieves the closing pressure on the piston, is coupled to the nozzle needle (3) by a coupling including a sleeve (17). The coupling may comprise half shells (15, 16) retained engaging recesses in the ends of the parts (3, 11) by the sleeve (17) which is biased by the needle closing spring (17). The coupling may also take other forms (Figs. 3 to 5).

GB 2 291 934 A

This patent is in the same family as DE 44 27 378 A1 and is provided as an aid.

EP 0 604 915 A1

This publication teaches a device for adjusting a fuel injector electromagnetic metering valve. The valve comprises a shutter (67) for the drain conduit (63) of a control

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chamber (61) of an injector; an electromagnet (42) having a fixed core (46), and an armature (43) controlling the shutter (67). The armature is normally pushed by a return spring (86) for maintaining the drain conduit (63) closed by the shutter (67). The device for adjusting the travel of the armature (43) comprises a plate (72) which is fitted to the body (6) of the injector by means of a sleeve (41) and via the interposition of two sets of calibrated washers (74). The

plate (72) presents a stop element (76) against which a contact element (77) integral with the

armature (43) is arrested. This prevents the armature (43) from contacting the core (46).

Respectfully submitted,

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INFORMATION DISCLOSURE CITATION (Use several sheets (Hyecostary))					Docket Number (Optional) R.37659		Application Number 09/844,273		
					Applicant(s) Siegfried RUTHARDT et al.				
OIPE					Filing Date 04-30-2001	Group Art Unit			
		MAR 0 4 200		. PATENT	DOCUMENTS				
*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE		NAME CL.		SUBCLASS	FILING DATE	
		5,577,667	11-26-1996	Marco A. GANSER		-		IF APPR	OPRIATE
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			N.C. D. Mary						
U.S. PATENT APPLICATION PUBLICATIONS *EXAMINER REF DOCUMENT NUMBER DATE NAME CLASS SUBCLASS FILING DATE									
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			FOREI	GN PATEN	T DOCUMENTS				
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		DE 44 27 378 A1	02-08-1996	Germany				1	
		GB 2 291 934 A	02-07-1996	United Kingdom				✓	
		EP 0 604 915 A1	07-06-1994	Europea	n			1	
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Form PTO-A820 (also form PTO-1449)

P09A/REV05

Patent and Trademark Office * U.S. DEPARTMENT OF COMMERCE